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ABSTRACT

This is one of a series of computer modules designed for use by secondary students who have access to a computer. The module, designed to help students understand various aspects of payroll calculation, includes a statement of objectives, a time schedule, a list of materials, an outline for each section, and several computer programs. (MK)

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COMPUTER MODULE FOR USE IN A MATHEMATICS LABORATORY SETTING

PAYROLL

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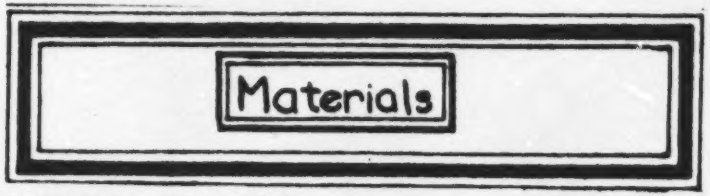
SE 031 128

PAYROLL

This unit may be used in the following ways:

1. It may be used by an entire class at one time (students accessing the computer program individually or in small groups).
2. It may be used by individuals or small groups of students.
3. It may be used to verify payrolls and deductions in real-life situations.
4. Individual students who have completed the unit can assist other students in doing the unit, esp cially the computer portions of the unit. Thus, this unit could be used concurrently with other individual projects.



Contained in this module:

1. Explanatory reading material for the student.
2. Worksheets for computing deductions, comparing payrolls, and filling out federal W-2 forms.
3. Copies of the PAYROLL computer program in BASIC computer language and as written for Monroe 1800 series programmable-calculators.
4. Copies of the CHECKS/BEST and DATA/PAY computer programs.
5. A copy of the current federal Internal Revenue Service Circular E, explaining withholding rates.
6. A copy of the current Colorado state withholding tax schedule.
7. A reproduction of the current federal W-2 form.

Teacher must be able to provide:

1. Computer access, or access to an 1800 series Monroe programmable-calculator.
2. Any necessary updates in withholding schedule information, due to changes in federal law or use of the program in states other than Colorado.

Optional (teacher provides)

1. Access to a keypunch
2. Portable electronic calculators

TIME SCHEDULE

It should be expected, allowing time for full class explanations, etc., that this unit will take from three to five fifty-minute class periods per students.

Objectives

.The student will learn the necessity of getting a social security card, and generally, what social security is.

.The student will learn the difference between gross pay and net pay, and what is deducted by federal, state and local governments, along with F.I.C.A. deductions.

.The student will learn how to calculate the amount of these deductions for actual payrolls.

.The student will learn the effect of payroll withholding on maritial status, tax exemptions, special conditions such as blindness, etc.

.The student will make the acquaintance of Internal Revenue Service prose, and learn how to fill out a federal W-2 form.

.(Optional) The student will learn to operate a keypunch, and observe a practical application in real-life of computers in a simulated computerized payroll.

Overview

.This unit is adaptable to a number of teaching situations besides the instructions of Consumer Math level students. The information it contains is of value to all high school students. The unit might be especially useful, for example, to business students.

.Since the mathematical purpose of the unit is not the teaching of arithmetic, but of operations, if portable electronic calculators are available, the students should be encouraged to use them.

.Students will receive copies of the instructions and worksheets, along with copies of the federal Circular E. Upon Completion of the unit, they should return the completed worksheets, their computer output, and the Circular E.

Outline

I. Cards # 1 - 4
Student Worksheets #4a - 4c

A. The student will complete the first worksheet, calculating withholding for four payroll examples and checking his answers on the computer program.

B. Teaching suggestions:

1. Due to the number of operations involved, teachers should expect most questions at this part of the unit. It would probably be advisable to go over the example in the unit with the whole class. Students should be encouraged to do the operations, check their answers with the computer program, and then go back and try to resolve discrepancies.

2. When students run the computer program, they should run all seven of the examples, not just the four that they do by hand. This will be necessary for them to do the third worksheet.

3. Section B of the first set of problems is optional, as it might prove too time-consuming. It should, in any case, be done only with the computer program, as its sole purpose is to demonstrate that F.I.C.A. withholding stops after the year's gross income has reached $12,600.00.

II. Student Worksheet # 4D

A. The student will work out the answers to the questions in the second set of problems.
B. Teaching suggestions:
   1. It may be necessary for the teacher to demonstrate for the class some of the operations called for in answering these questions.
   2. Again, the use of electronic calculators should be encouraged if they are available.

III. Student Worksheet # 5A

A. The student will fill out the sample W-2 form.
B. Teaching suggestions:
   1. The student should be encouraged to try to fill out the form using only the instructions on the form itself, and the instructions in the Circular E. If this fails, the student can then use the additional detailed instructions provided.

ANSWER KEY

Worksheet #4D

1. $8.91
2.
   a. $3.45
   b. $12.36
3.
   a. $1.88
   b. $1.64
   c. $1.72
   d. $2.11
4. $.39

Worksheet #5A

Students may make up an address and social security number; check that the form of the social security number is accurate. (See sample, next page.

ENRICHMENT

1.
A. Teaching suggestions:
   1. The student should be informed of the vital importance of having a social security card, especially to be emphasized is the six-week time lag.

2.
A. The student, if employed, will run his own payroll on the computer program.
B. Teaching suggestions:
   1. One student who used this unit in an earlier edition found that he was illegally having ten dollars a week withheld from his pay for

Wage and Tax Statement 1973

Copy D
For Employer

EMPLOYER'S STATE IDENTIFYING NUMBER

FEDERAL INCOME TAX INFORMATION

1 Federal income tax withheld	2 Wages, tips and other compensation	3 FICA employee tax withheld	4 FICA wages
$2727.84	——	$232.10	$4,400.00

STATE OR LOCAL INCOME TAX INFORMATION

6 State tax withheld	7 State wages	8 Name of state
$450.12	$4,400.00	Colo

5 Difference between FICA tax and light	9 City tax withheld	10 City wages	11 Name of city
——	——	——	Denver

EMPLOYEE'S social security number 987-65-4321

OTHER INFORMATION (SEE CIRCULAR E)

This information is being furnished to the Internal Revenue Service and appropriate State officials

Robert Sign
1234 Main St.
Denver, Colo. 80222

Type or print EMPLOYEE'S name, address and ZIP code above.

An "X" in the upper left corner indicates this is a corrected form.

FORM W-2 Department of the Treasury—Internal Revenue Service

Workmen's compensation. Other students have found that they were getting paid exactly what they were supposed to. Employers, however, are frequently not too accurate in figuring withholding. The most common mistake probably is mistaking total income for taxable income.

The fact is that the federal and state governments don't really care how much is withheld, as long as it is a credible range; this is why, for withholding purposes, an employee can claim any number of exemptions he wants. Therefore, if there is a discrepancy between the program and a real paycheck, students should probably not be encouraged to haggle over the matter with their employers, unless the discrepancy is very flagrant or indicates a possible illegality.

3.

A. The student will prepare a set of keypunch cards containing the data from the payroll program, to be run through the CHECKS/BEST program on the computer. This program will cause paychecks to be printed out for the people in the examples.

B. It there is access to both keypunch and a computer this part of the unit is probably especially useful for business students. It should be emphasized that this computer-keypunch process is the way that payrolls are actually determined and checks printed in many large businesses. Thus, it is a practical simulation.

The DATA/PAY program contains data correlating name, employee number and social security for the examples in the first set of problems. The data which is keypunched contains the employee numbers, gross pay, the various deductions, and the net pay. From these two sets of data, paychecks are produced by the CHECKS/BEST program. The keypunched data must be formatted according to the specifications of the program, which are to be found in the second READ

statement. Formatting accurately is the most essential part of keypunching, so this is a valuable experience. If the teacher knows how to do it, the student may be taught to make up a keypunch drum card to suit this format, thus learning what an increase in speed at the keypunch is possible with a drum card. With a proper drum card, the data from this unit could be processed after two or three tries, even by a beginner, in less than ten minutes.

The program checks, of course, bear no resemblance to negotiable checks. Results are obtained from the program by executing CHECKS/BEST, adding DATA/PAY, then adding the properly formatted keypunch data.

EVALUATION PROCEDURE

Students' own calculations of deductions for some of the examples can be checked against the computer output, by both the students and the teacher. If the students' calculations disagree with the computer they should do them over and find their mistake.

Answers for the comparison questions in Student Worksheet #4D are provided.

A sample completed W-2 form for Student Worksheet #5A is also provided.

A posttest for the unit might contain questions about the conceptual information developed in the unit - - social security, withholding tax, tax exemptions, etc. It might also contain simple problems similar to those which are found in the worksheet.

A student's success in completing the optional keypunch section of the unit can be evaluated by examining the computer output, comparing it with the data input.

Payroll

The purpose of this module is to acquaint you with some of the problems involved with getting a job, receiving a paycheck, and making out a payroll. If you have a job, it will show you why your take-home pay is less than what you actually earn; if you ever become an employer, you will know how to make out a payroll.

Included in this module is a copy of the Internal Revenue Service Circular E: The Employer's Tax Guide. With this circular, along with the additional information on the following pages, you will be able to make out a payroll, complete with all the necessary deductions.

When you have completed the worksheets, your answers can be checked using the Payroll computer program.

Federal Insurance Contributions Act (FICA)

FICA is Social Security. 5.85% of your total pay is deducted for this; the amount is matched by your employer. The government keeps this money until you are eligible to receive Social Security payments, at age 62 or if you become disabled. After you have earned $12,600 in one year, social security is not deducted until the next year.

It is required by law that you have a social security number and a social security card to have a job and receive a paycheck. No social security number, no job. To get a social security card, pick up an application at the post office. The application is pre-addressed to the Department of Health, Education and Welfare. Fill it our and mail it, along with a copy of your birth certificate. It takes HEW from four to six weeks to process an application, so it is advisable to apply for a social security card well in advance of seeking a job.

Head Tax

The city of Denver deducts a Work Privilege Tax of $2.00 a month for everybody who works with in the city. For employees on a weekly payroll, this tax is deducted from every fourth paycheck.

Withholding Tax

The Federal government and many state and city governments charge a tax on the money earned by citizens. This is called an income tax. In order that the individual does not have to pay all his yearly taxes at once on April 15, employers hold out part of each employee's pay for income tax purposes. The employer then sends the withholding taxes to the government periodically and the employee is then freed from the burden of doing this himself.

Withholding from a Paycheck

Instructions for the percentage method of withholding federal taxes are found on page 17 of the Employer's Tax Guide. The Tables for the Percentage Method of Withholding are found on pages 18 and 19.

The state of Colorado withholds a certain percentage of the federal tax, according to the income bracket of the employee. The table for this is as follows:

Wage bracket per year At Least	But Less Than	Single	Married
$ 0	$1000	0	0
$ 1,000	$10,000	15%	18%
$10,000	$20,000	16.5%	20.5%
$20,000	And over	14.5%	19%

Remember, these are percentages of federal withholding, not of total earnings.

To withhold from a paycheck, take the gross pay and subtract according to the number of exemptions claimed(each exemption is worth $750.00 a year; see the table on page 17, Circular E). The remaining figure is the taxable pay. Compute the amount of federal withholding from the tables on pages 18 and 19. Take a percentage of this amount according to the Colorado tables above; this is the Colorado withholding. Finally, take out 5.85% of the gross pay for social security. Add together the federal withholding, Colorado withholding, and social security, and subtract this total from the gross pay. The result is the net pay. An example follows on the next card.

Incidentally, you may claim as many exemptions as you want, regarless of your actual tax status. Some people prefer to claim extra exemptions rather than wait for a tax refund. You should be very careful about this, however, for it may require you to pay extra money when you file your income tax return.

A Sample Paycheck

Dan Smith drives a truck for the Peter Piper Pickle Plant. He works 9 hours a day, 5 days a week, at $2.00 an hour. Since he works 45 hours a week, he has 5 hours of overtime, for which he is paid time-and-a-half, or $3.00 an hour. Thus his gross pay is:

$$\begin{array}{rl} \$80.00 & (2 \times 40) \\ +\ 15.00 & (3 \times 5) \\ \hline \$95.00 & \end{array}$$

He is single, and claims one exemption, so his taxable pay is:

$95.00 - $14.40 = $80.60

In Table 1a of the Percentage Tables, we find that his tax is:

$10.20 plus 21% of the excess over $73.00.

The excess over $73.00 is $7.60; 21% of this equals $1.59. So Dan's total federal withholding is $10.20 + $1.59 = $11.79.

Dan makes between $1,000 and $10,000 a year, so his state tax is 15% of the federal tax or

.15 X $11.79 = $1.76

Social Security withholds 5.85% of his gross pay, so

.0585 X $95.00 = $5.55

Adding these three figures together, we get

$11.79 + $1.76 + $5.55 = $19.10

This is the total of the deductions.
So Dan's net pay is

$95.00 - $19.10 = $75.90

A.

You will be given seven different situations to compare what is taken out of a paycheck. Pick four of them and fill out the information on the forms on Student Worksheet #4C. Compute the federal withholding, state withholding, social security, miscellaneous deductions, and net pay. Check your answers with the Payroll program.

Each of the people names below are employees at Peter Piper's Pickle Plant. They each do the same job (pack pickles) for 40 hours a week at $2.25 an hour. But because they are different people in different situations, their paychecks tend to differ.

Assume that this is the first paycheck of the year. No head tax can be taken out since the year has just begun. The date is January 7. The year to date gross will be zero.

Benny Plork (bachelor)

Employee No.	081
Social Security No.	728-91-2018
Dependents	One (himself)
Overtime	5 hours
Miscellaneous Deductions	None

Percy Pipe (blind man)

Employee No.	027
Social Security No.	472-08-1973
Dependents	Two (because he's blind)
Overtime	None
Misc. Deductions	None

Henry Gallicot (newlywed)

Employee No.	104
Social Security No.	631-17-4111
Dependents	One (his wife claims herself so Henry doesn't claim her)
Overtime	None
Misc. Deductions	$7.50 a week credit union payment

Demetrius Henningson (married man with 8 children)

Employee No.	048
Social Security No.	123-45-6789
Dependents	10
Overtime	12 hours
Misc. Deductions	None

Alexandria Holmes (woman's lib singlite)

EmployeeNo.	088
Social Security No.	812-36-2436
Dependents	One
Overtime	None
Misc. Deductions	$3.50 a week United Fund

Sam Franklin (divorced)

Employee No.	179
Social Security No.	521-43-8714
Dependents	Four (supports ex-wife & two kids)
Overtime	2 hours
Misc. Deductions	None

B.

Robert Sign is vice-president of the Peter Piper Pickle Plant, in charge of advertising. He is under contract to the company, and receives $1,200.00 per month. Compute his paychecks for an entire year. (Remember that social security ceases to be deducted after the gross pay has reached $12,600.00)

Robert Sign (married)

Employee No.	163
Social Security No.	112-35-4443
Dependents	3
Misc. Deductions	None

Peter Piper's Pickle Plant

Gross Pay	Federal Withholding Tax	State Withholding Tax	City Tax	FICA	Misc. Decuctions	Net Pay

Employee Number	Social Security Number	Name	Date	Net Pay

1. How much more money a week does Sam Franklin, with four dependents, take home compared to Benny Plork, with no dependents? (Do not count overtime pay.)

   _____

2. How much more money does Demetrius Henningson take home than

   a. Sam Franklin _____

   b. Than Benny Plork? _____

3. What is the actual takehome pay per hour of:

   a. Percy Pipe _____

   b. Henry Callicot _____

   c. Alexandria Holmes _____

   d. Demetrius Henningson _____
   (Do not count overtime pay)

4. Not counting overtime pay, how much more does Demetrius Henningson, with ten dependents, make per hour than Alexandria Holmes?

   _____

Every employer is required to fill out form W-2, in triplicate, for each employee every January. The form lists all the deductions for an employee during the preceding year.

The employer must give or send the W-2 to his employees before the end of January, and the employee must file his tax returns before April 15 of every year.

When you make out your tax returns, you must enclose a copy of the W-2 with your federal and state returns (also with city returns if there is a city income tax). You save one copy for your own reference. If the tax you pay is less than the amount of money that has been withheld, you will get a tax refund.

PROBLEM: Fill out the W-2 form on the reverse side of this card for Robert Sign of the Peter Piper Pickle Plant. To fill out the form, you must total his deductions for the entire year.

1 2

Wage and Tax Statement 1973

EMPLOYER'S STATE IDENTIFYING NUMBER

Copy A For Internal Revenue Service Center

Type or print EMPLOYER'S federal identification number, name, address, and zip code above

FEDERAL INCOME TAX INFORMATION		SOCIAL SECURITY INFORMATION		STATE OR LOCAL INCOME TAX INFORMATION		
1 Federal income tax withheld	2 Wages, tips and other compensation	3 FICA employee tax withheld	4 Total FICA wages	6 State tax withheld	7 State wages paid	8 Name of state
EMPLOYEE'S social security number			5 Uncollected employee FICA tax on tips	9 City tax withheld	10 City wages paid	11 Name of city
				Advance EIC payment	OTHER INFORMATION (SEE CIRCULAR E)	

Form W—2

Type or print EMPLOYEE'S name, address and ZIP code above.

If this is a corrected form, put an X to the right of the number in the upper left corner

FORM W-2 Department of the Treasury—Internal Revenue Service

1. If you don't already have a social security card, pick up an application at the post office and send it in. You might as well do it now. Remember, it takes four to six weeks for the Department of Health, Education and Welfare to process your application (better figure on six). If you want to have a job next summer, better send your application in by April at the latest.

2. If you have a job now, run the Payroll program for your own paycheck. Employers can make mistakes. If what you are getting is different from what the program says you're supposed to get, check it out for yourself with the tax tables. If there's still a difference, you should find out why.

3. The Peter Piper Pickle Plant is a large corporation, so all its payrolls are done by computer. The necessary data is given to the computer on punchcards, filled in by keypunch operators. If you wish to see how the computer does a payroll you can learn how to type in the data on the keypunch. Your cards will be sent to the computer and, providing you do it right, the computer will print up a set of paychecks for the Peter Piper employees by using the computer programs CHECKS/BEST and DATA/PAY

   Keypunch data processing is an essential part of most large businesses. If you are interested in learning about it, check with your instructor.

The following program is written in the BASIC language for the Univac 1106. The words PRINT and LET are optional on this system and IF-THEN statements may have the same context as FORTRAN.

```
5 DIM A(3,2,8),D(3,2,8),Q(3,2,8),B(2,8),C(2,4),P(4)
6 I1=0
10 'THIS PROGRAM WILL DETERMINE THE AMOUNT OF PAYROLL DEDUCTIONS'
20 'FOR A WORKER, AND WHAT HIS NET PAY WILL BE.'
30 'WHEN THE COMPUTER TYPES A QUESTION MARK, PUT IN THE'
40 'INFORMATION IT ASKS FOR.  USE NUMBERS ONLY--'
50 'NO DOLLAR SIGNS, PERCENT SIGNS OR COMMAS.'
60 'THE COMPUTER WILL PRINT OUT THE GROSS PAY, FEDERAL'
70 'WITHHOLDING, STATE WITHHOLDING, SOCIAL SECURITY,'
80 'MISCELLANEOUS DEDUCTIONS, AND NET PAY.'
90 PRINT
100 I=0
110 'WHAT IS THE PAY PERIOD--WEEKLY,BIWEEKLY,OR MONTHLY';
120 INPUT P$
130 'WHAT IS THE EMPLOYEE NUMBER';
140 INPUT N
150 'WHAT IS THE MARITAL STATUS?  TYPE IN'
160 '1 IF SINGLE,        2 IF MARRIED';
170 INPUT M
180 'HOW MANY TAX EXEMPTIONS ARE CLAIMED';
190 INPUT E
195 IF I1>0 THEN 230
200 'EMPLOYEES ARE PAID CERTAIN AMOUNTS OF MONEY'
210 'FOR CERTAIN UNITS OF TIME:  2 DOLLARS AN HOUR,'
220 '100 DOLLARS A WEEK,ETC.'
030 'HOW MUCH IS THIS EMPLOYEE PAID PER TIME UNIT';
240 INPUT S1
250 'HOW MANY TIME UNITS (HOURS,DAYS,ETC.) DID HE WORK';
260 INPUT H1
270 'HOW MANY UNITS OF OVERTIME DID HE HAVE';
280 INPUT O1
290 G2=S1*H1+1.5*S1*O1+.005
300 G3=G2
310 IF I>0 GO TO 330
320 G1=0
330 G1=G1+G2
340 IF G1<12600 GO TO 390
350 IF G1>(G2+12600)GO TO 380
360 G3=G2-(G1-12600)
370 GO TO 390
380 G3=0
390 R=.0585*G3+.005
400 FOR J=1 TO 2
410 FOR K=1 TO 8
415 IF I=1 THEN910
416 IF I1>0 THEN 910
420 READ B(J,K)
430 NEXT K
440 NEXT J
450 DATA 0,.14,.18,.21,.23,.27,.31,.35
460 DATA 0,.14,.16,.20,.24,.28,.32,.36
```

```
470 FOR J=1 TO 2
480 FOR K=1 TO 4
490 READ C(J,K)
500NEXT K
510 NEXT J
520 DATA 0,.15,.165,.145,0,.18,.205,.19
530 FOR J=1 TO 4
540 READ P(J)
550 NEXT J
560 DATA 1000,10000,20000,10000000
570 FOR V=1 TO 3
580 FOR J=1 TO 2
590 FOR K=1 TO 8
600 READ A(V,J,K)
610 NEXT K
620 NEXT J
630 NEXT V
640 DATA 0,0,3.36,10.80,37.89,43.96,54.88,74.06
650 DATA 0,0,3.92,24.40,38.40,60.48,84.88,108.92
660 DATA 0,0,6.72,20.58,74.76,88.10,108.62,147.99
670 DATA 0,0,8.12,49.09,64.68,121.08,168.40,217.68
680 DATA 0,0,14.56,44.62,161.80,190.55,235.64,320.89
690 DATA 0,0,17.50,106.14,140.34,862.26,365.08,471.58
700 FOR V=1 TO 3
710 FOR J=1 TO 2
720 FOR K=1 TO 8
730 READ D(V,J,K)
740 NEXT K
750 NEXT J
760 NEXT V
770 DATA 0,11,35,73,202,231,269,333
780 DATA 0,11,39,167,207,324,409,486
790 DATA 0,21,69,146,404,462,538,665
800 DATA 0,21,79,335,413,648,817,971
810 DATA 0,46,150,317,875,1000,1167,1442
820 DATA 0,46,171,725,896,1404,1771,2104
830 FOR V=1 TO 3
840 FOR J=1 TO 2
850 FOR K=1 TO 7
860 Q(V,J,K)=D(V,J,K+1)
870 NEXT K
880 Q(V,J,8)=1000000
890 NEXT J
900 NEXT V
910 IF P$='BIWEEKLY' THEN 1200
920 IF P$='MONTHLY' THEN 1500
925 V=1
930 G4=G2*52
940 T=G2-14.40*E
950 GO TO 1600
1200 G4=G2*26
1205 V=2
1210 T=G2-28.80*E
1220 GO TO 1600
1500 G4=G2*12
1505 V=3
1510 T=G2-62.50*E
1600 FOR L=1 TO 8
1605 IF T<=Q(V,M,L) THEN 1620
1610 NEXT L
```

```
1620 F=A(V,M,L)+B(M,L)*(T-D(V,M,L))+.005
1625 FOR L=1 TO 4
1630 IF G4<=P(L) THEN1640
1635 NEXT L
1640 S=F*C(M,L)+.005
1650 N1=G2-F-S-R
1655 PRINT
1670 PRINT
1675 PRINTINIMAGE 'EMPLOYEE:   XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX':N
1680 PRINT
1685 PRINTINIMAGE  'GROSS PAY    $$$$$$$$$$$$$$$$$$$$$$$$$$$$$.$$':G2

1690 PRINT
1695 PRINTINIMAGE 'FEDERAL WITHHOLDING    $$$$$$$$$$$$$$$$$$.$$':F
1700  PRINTINIMAGE 'STATE WITHHOLDING    $$$$$$$$$$$$$$$$$$.$$':S

1705 PRINTINIMAGE 'F.I.C.A.    $$$$$$$$$$$$$$$$$$$$$$$$$$$$$.$$':R
1710 PRINT
1715 PRINTINIMAGE 'NET PAY    $$$$$$$$$$$$$$$$$$$$$$$$$$$$$.$$':N1

1720 PRINT
1725 'HOW MANY MISCELLANEOUS DEDUCTIONS ARE THERE (IF NONE,'
1730 '          WRITE ZERO(0)';
1735 INPUT X
1740 IF  X=0,THEN 1785
1745 'LIST THE MISCELLANEOUS DEDUCTIONS AFTER EACH QUESTION MARK.'
1750 Z=0
1755 FOR J=1 TO X
1760 INPUT Y(J)
1765 Z=Z+Y(J)
1770 NEXT J
1775 N1=N1-Z
1778 PRINT
1780 PRINT
1782 PRINTINIMAGE 'TOTAL MISCELLANEOUS DEDUCTIONS $$$$$$$$$.$$':Z
1783 PRINT
1785 PRINTINIMAGE 'YEARS GROSS PAY TO DATE $$$$$$$$$$$$$$$$.$$':G1

1790 PRINTINIMAGE 'GROSS PAY FOR THIS PAY PERIOD $$$$$$$$$$.$$':G2

1795 PRINT
1800 PRINTINIMAGE  'NET PAY $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$.$$':N1

1805 PRINT
1810 'DO YOU WANT TO RUN THE PROGRAM AGAIN FOR THE SAME EMPLOYEE'
1815 'FOR THE NEXT PAY PERIOD?  ANSWER YES OR NO';
1820 INPUT A$
1825 PRINT
1830 IF A$ ='NO' THEN 1845
1835 I=1
1840 GO TO  230
1845 'DO YOU WANT TO RUN THE PROGRAM AGAIN FOR ANOTHER EMPLOYEE?'
1850 'ANSWER YES OR NO';
1855 INPUT B$
1860 IF B$='NO' THEN 1870
1863 I1=1
1865 GO TO 90
1867 PRINT
1870'THANK YOU. GOODBYE.'
1875 END
```

The following program, CHECKS/BEST was written by Dave Best of George Washington High School, Denver, Colorado.

```
1               DIMENSION ARR(8,8)
2               DIMENSION AR(11)
3               A=' '
4               B='     '
5               C='     '
6               D=' '
7               E='     '
8               F='     '
9               READ(5,1)((ARR(I,K),K=1,8),I=1,8)
10        1     FORMAT(4A5,I3,I3,I2,I4)
11              READ(5,2)(AR(K),K=1,11)
12          2 FORMAT(I5,2X,F7.2,1X,F6.2,1X,F6.2,1X,F6.2,15X,I4,1X,I2
  )
13              WRITE(6,3)
14        3     FORMAT(1H1,'**********************************************
  **********')
15              DO 100 I=1,8
16        100   IF(ARR(I,2).EQ.AR(1))GO TO 20
17        20    WRITE(6,4)(ARR(I,K),K=1,4),(ARR(I,L),L=6,8)
18        4     FORMAT(1HO,2X,4A5,5X,'SOCIAL SECURITY NO.',I3,'-',I2,
  '-',I4)
19              WRITE(6,5)AR(2)
20        5     FORMAT(1HO,4X,'GROSS PAY',12X,F7.2)
21              WRITE(6,6)AR(3)
22        6     FORMAT(1H ,4X,'FEDERAL WITHHOLDING',3X,F6.2)
23              WRITE(6,7)AR(4)
24        7     FORMAT(1H ,4X,'STATE WITHHOLDING',5X,F6.2)
25              WRITE(6,8)AR(5)
26        8     FORMAT(1H ,4X,'FICA',18X,F6.2)
27              TOT=AR(3)+AR(4)+AR(5)
28              WRITE(6,9)TOT
29        9     FORMAT(1H ,4X,'TOTAL DEDUCTIONS',5X,F7.2)
30              WRITE(6,10)(AR(K),K=6,11)
31        10    FORMAT(1H ,4X,'NET PAY',14X,4I,'.',2I)
32              WRITE(6,11)
33        11    FORMAT(1HO,'**********************************************
  **********')
34              WRITE(6,13)
35        13     FORMAT(1HO,15X,'COLUMBIA STATE BANK')
36              WRITE(6,14)(ARR(I,J),J=1,4),(AR(M),M=6,11)
37        14    FORMAT(1HO,1X,'PAY TO THE ORDER OF',1X,4A5,1X,'$',4I,
  '.',2I)
38              IF(AR(6).EQ.0)GO TO 60
39              A=AR(6)
40              B='THOU'
41              C='SAND'
42        60    IF(AR(7).EQ.0)GO TO 70
```

```
43              D=AR(7)
44              E='HUND'
45              F='RED '
46        70    WRITE(6,15)A,B,C,D,E,F,(AR(K),K=8,11)
47        15    FORMAT(1HO//,7X,I,1X,2A4,1X,I,1X,2A4,2I,' DOLLARS',1X
  ,2I,' CENTS
48             C')
49              WRITE(6,19)
50        19    FORMAT(1HO//,30X,'--------------------------')
51              WRITE(6,11)
52              END
```

The following, DATA/PAY, contains the data for the program, CHECKS/BEST.

```
1       BENNY PLORK             81728912018
2       PERCY FIPE              37472081973
3       HENRY CALLICUT         104631174111
4       PRESTON STORKE           3127456789
5       DEMETRIUS HENNINGTON    48123456789
6       ALEXANDRIA HOLMES       88812362436
7       ROBERT SIGN            263924017132
8       SAM FRANKLIN           179521438714
```

How to load the payroll program
in the Monroe 1880

Turn the ON/OFF switch off, then all the way on.

Place the READ/WRITE switch on READ.

Push the RESET button.

Push "JUMP", then push "0" twice.

On card 1, find the arrow with an "A" on it. Put that side of the card in the card-reading slot, top side up.

Take the card out; do the same with side "B".

Push "RESUME"; wait for the green idle light to come back on.

Push "JUMP", then push "0" twice.

Enter sides A and B of card 2 as you did card 1.

Put card 2 back in its envelope.

Push "RESUME"; the machine will print out a row of dots.

How to use the Payroll program

For a weekly payroll, push "JUMP", "3", "5".
" bi-weekly " " " "3", "7".
" monthly " " " "4", "0".
Push "RESUME".

The machine will print out a "1" for a weekly payroll.
" " " " " "2" " bi-weekly " .
" " " " " "4" " monthly " .

Enter the employee number, then "RESUME".

Enter number of dependents, a decimal point, then marital status ("1" for married, "0" for single); "RESUME".

Enter year to date gross pay; "RESUME".

Enter number of regular working hours; "RESUME".

Enter hourly rate; "RESUME".

The machine will print out the gross regular pay.

Enter number of overtime hours; "RESUME".

The machine will print out overtime pay (if there is any), and a line of dots.

The machine will print out the following:

Gross pay
Federal Withholding Tax
State Withholding Tax
FICA
Net Pay befor miscellaneous deductions
.....

Enter miscellaneous deductions; "RESUME".

If there were any miscellaneous deductions, the machine will print their total.

Final printout:

.....
Net Pay
Year-to-Date Gross Pay
.....

The following is a listing of the Payroll program for the Monroe 1880.

```
0000  154
   1  377
   2  377
   3  377
   4  377
   5  377
   6  377
   7  377
   8  377
   9  377
0010  176
   1  056
   2  061  A
   3  056
   4  110  H
   5  011  I
   6  061  A
   7  056
   8  061  A
   9  110  H
0020  006  F
   1  065
   2  056
   3  061  A
   4  023  X
   5  056
   6  061  A
   7  110  H
   8  001  1
   9  020  =
0030  061  A
   1  110  H
   2  004  $
   3  063  3
   4  056
   5  254
   6  047  '
   7  220
   8  064
   9  065
0040  061  A
   1  023  X
   2  111  I
   3  001  1
   4  023  X
   5  001  1
   6  012
   7  005  5
   8  020  =
   9  061  A
0050  113  +
   1  004  $
   2  176
   3  111  I
   4  004  $
   5  061  A
   6  022  -
   7  026  (
   8  111  I
   9  011  9
0060  044  $
   1  023  X
   2  260
   3  106
   4  001  1
   5  004  $
   6  012
   7  004  $
   8  220
   9  123  +
0070  241
   1  116  N
   2  006  F
   3  002  2
   4  012
   5  005  5
   6  220
   7  123  +
   8  003  3
   9  001  1
0080  012
   1  002  2
   2  005  5
   3  027  )
   4  020  =
   5  110  H
```

	6	005	5		9	012	
	7	111	↑	0130		111	↑
	8	013	-		1	005	5
	9	254			2	022	-
0090		145			3	026	(
	1	002	2		4	121	↑
	2	005	5		5	067	
	3	110	↓		6	023	X
	4	012			7	111	↑
	5	111	↑		8	003	3
	6	010	0		9	027	)
	7	110	↓	0140		020	=
	8	003	3		1	110	↓
	9	220			2	001	1
0100		154			3	001	1
	1	000	0		4	113	+
	2	110	↓		5	012	
	3	012			6	121	↑
	4	111	↑		7	067	
	5	007	7		8	023	X
	6	110	↓		9	111	↑
	7	003	3	0150		001	1
	8	003	3		1	020	=
	9	113	+		2	110	↓
0110		012			3	005	5
	1	026	(		4	001	1
	2	121	↑		5	113	+
	3	067			6	012	
	4	023	X		7	121	↑
	5	111	↑		8	067	
	6	003	3		9	023	X
	7	027	)	0160		111	↑
	8	022	-		1	003	3
	9	111	↑		2	020	=
0120		005	5		3	113	+
	1	020	=		4	005	5
	2	255			5	111	↑
	3	176			6	005	5
	4	220			7	061	A
	5	154			8	111	↑
	6	003	3		9	004	4
	7	013	-	0170		023	X
	8	113	+		1	260	

2	261	
3	005	5
4	002	2
5	220	
6	271	
7	241	
8	267	
9	001	1
0180	002	2
1	220	
2	271	
3	002	2
4	004	4
5	020	=
6	110	↓
7	001	1
8	004	4
9	007	7
0190	110	↓
1	012	
2	003	3
3	113	+
4	012	
5	111	↑
6	001	1
7	022	-
8	121	↑
9	067	
0200	020	=
1	255	
2	315	
3	220	
4	300	
5	111	↑
6	013	-
7	254	
8	326	
9	001	1
0210	113	+
1	012	
2	220	
3	331	
4	002	2

5	113	+
6	012	
7	121	↑
8	067	
9	023	X
0220	111	↑
1	005	5
2	020	=
3	061	A
4	113	+
5	005	5
6	000	0
7	110	↓
8	000	0
9	001	1
0230	002	2
1	006	6
2	000	0
3	000	0
4	110	↓
5	001	1
6	022	-
7	111	↑
8	006	6
9	020	=
0240	126	⇊
1	022	-
2	067	
3	000	0
4	111	↑
5	001	1
6	022	-
7	111	↑
8	006	6
9	022	-
0250	111	↑
1	004	4
2	020	=
3	126	⇊
4	021	+
5	067	
6	001	1
7	021	+

```
    8   111   ↑
    9   004    4
0260    023   X
    1   012
    2   000    0
    3   005    5
    4   010    8
    5   005    5
    6   020   =
    7   110   ↓
    8   000    0
    9   126   V
0270    067
    1   000    0
    2   066
    3   001    1
    4   111   ↑
    5   004    4
    6   023   X
    7   012
    8   000    0
    9   005    5
0280    010    8
    1   005    5
    2   020   =
    3   110   ↓
    4   000    0
    5   066
    6   000    0
    7   111   ↑
    8   000    0
    9   061   A
0290    113   +
    1   005    5
    2   176
    3   111   ↑
    4   004    4
    5   113   +
    6   006    6
    7   022   -
    8   111   ↑
    9   005    5
0300    020   =
```

```
    1   061   A
    2   065
    3   062   B
    4   063   C
    5   056
    6   254
    7   066
    8   221
    9   072   R
0310    041   !
    1   061   A
    2   221
    3   060
    4   065
    5   111   ↑
    6   004    4
    7   022   -
    8   111   ↑
    9   005    5
0320    022   -
    1   043   #
    2   061   A
    3   020   =
    4   176
    5   061   A
    6   111   ↑
    7   006    6
    8   061   A
    9   176
0330    377
    1   377
    2   377
    3   377
    4   377
    5   377
    6   377
    7   377
    8   377
    9   065
0340    065
    1   065
    2   220
    3   012
```

4	000	0
5	000	0
6	000	0
7	000	0
8	000	0
9	000	0
0350	000	0
1	154	
2	001	1
3	176	
4	177	
5	176	
6	001	1
7	110	↓
8	007	7
9	110	↓
0360	010	8
1	360	
2	065	
3	065	
4	065	
5	377	
6	220	
7	000	0
8	377	
9	377	
0370	154	
1	002	2
2	176	
3	177	
4	176	
5	002	2
6	012	
7	001	1
8	006	6
9	007	7
0380	005	5
1	110	↓
2	007	7
3	110	↓
4	010	8
5	264	
6	002	2
7	065	
8	065	
9	065	
0390	377	
1	220	
2	000	0
3	065	
4	056	
5	220	
6	000	0
7	000	0
8	000	0
9	000	0
0400	154	
1	004	4
2	176	
3	177	
4	176	
5	004	4
6	012	
7	003	3
8	003	3
9	005	5
0410	110	↓
1	007	7
2	110	↓
3	010	8
4	264	
5	001	1
6	065	
7	065	
8	065	
9	377	
0420	220	
1	000	0
2	000	0
3	000	0
4	000	0
5	000	0
6	000	0
7	000	0
8	000	0
9	000	0

0430	000		0
1	000		0
2	100	P	
3	100	P	
4	000		0
5	000		0
6	000		0
7	000		0
8	000		0
9	000		0
0440	000		0
1	000		0
2	000		0
3	000		0
4	000		0
5	000		0
6	000		0
7	000		0
8	010		8
9	000		0
0450	000		0
1	000		0
2	000		0
3	000		0
4	000		0
5	000		0
6	000		0
7	000		0
8	000		0
9	000		0
0460	000		0
1	000		0
2	000		0
3	000		0
4	100	P	
5	100	P	
6	000		0
7	000		0
8	000		0
9	000		0
0470	000		0
1	000		0
2	000		0
3	000		0
4	000		0
5	000		0
6	000		0
7	000		0
8	000		0
9	000		0
0480	110		9
1	100	P	
2	000		0
3	000		0
4	000		0
5	000		0
6	000		0
7	000		0
8	000		0
9	000		0
0490	000		0
1	000		0
2	000		0
3	000		0
4	000		0
5	000		0
6	100	P	
7	100	P	
8	000		0
9	000		0
0500	377		
1	377		
2	377		
3	377		
4	377		
5	377		
6	377		
7	377		
8	377		
9	377		
0510	377		
1	377		

Payroll Computer Sheet # 14

The following is the data for the Payroll program for the Monroe 1880.

0000	154			1	000		0
1	000		0	2	004		4
2	120	↓		3	120	↓	
3	000		0	4	002		2
4	000		0	5	011		9
5	120	↓		6	003		3
6	000		0	7	011		9
7	001		1	8	120	↓	
8	120	↓		9	000		0
9	000		0	0050	006		6
0010	002		2	1	012		
1	120	↓		2	001		1
2	000		0	3	006		6
3	005		5	4	120	↓	
4	120	↓		5	000		0
5	002		2	6	007		7
6	005		5	7	003		3
7	120	↓		8	012		
8	002		2	9	011		9
9	006		6	0060	002		2
0020	120	↓		1	120	↓	
1	002		2	2	000		0
2	007		7	3	010		8
3	120	↓		4	001		1
4	006		6	5	006		6
5	000		0	6	007		7
6	120	↓		7	120	↓	
7	006		6	8	000		0
8	001		1	9	011		9
9	001		1	0070	012		
0030	001		1	1	002		2
1	120	↓		2	120	↓	
2	000		0	3	001		1
3	003		3	4	000		0
4	120	↓		5	002		2
5	002		2	6	004		4
6	010		8	7	012		
7	012			8	004		4
8	001		1	9	120	↓	
9	004		4	0080	001		1
0040	120	↓		1	001		1

2	002	2
3	000	0
4	007	7
5	120	↓
6	001	1
7	002	2
8	012	
9	002	2
0090	004	4
1	120	↓
2	001	1
3	003	3
4	003	3
5	002	2
6	012	
7	004	4
8	120	↓
9	001	1
0100	004	4
1	003	3
2	002	2
3	004	4
4	120	↓
5	001	1
6	005	5
7	012	
8	002	2
9	010	8
0110	120	↓
1	001	1
2	006	6
3	006	6
4	000	0
5	012	
6	004	4
7	010	8
8	120	↓
9	001	1
0120	007	7
1	004	4
2	000	0
3	011	9
4	120	↓
5	001	1
6	010	8
7	012	
8	003	3
9	002	2
0130	120	↓
1	001	1
2	011	9
3	010	8
4	004	4
5	012	
6	002	2
7	010	8
8	120	↓
9	002	2
0140	000	0
1	004	4
2	010	8
3	006	6
4	120	↓
5	002	2
6	001	1
7	012	
8	003	3
9	006	6
0150	120	↓
1	002	2
2	002	2
3	001	1
4	000	0
5	010	8
6	012	
7	011	9
8	002	2
9	120	↓
0160	002	2
1	003	3
2	001	1
3	000	0

	4	000	0		5	006	6
	5	000	0		6	002	2
	6	000	0		7	000	0
	7	120	↓		8	002	2
	8	002	2		9	120	↓
	9	004	4	0210		003	3
0170		003	3		1	007	7
	1	005	5		2	012	
	2	120	↓		3	002	2
	3	003	3		4	003	3
	4	001	1		5	120	↓
	5	012			6	003	3
	6	001	1		7	010	8
	7	010	8		8	003	3
	8	120	↓		9	007	7
	9	003	3	0220		012	
0180		002	2		1	002	2
	1	003	3		2	011	9
	2	012			3	120	↓
	3	003	3		4	003	3
	4	006	6		5	011	9
	5	120	↓		6	002	2
	6	003	3		7	003	3
	7	003	3		8	001	1
	8	007	7		9	120	↓
	9	003	3	0230		004	4
0190		120	↓		1	000	0
	1	003	3		2	012	
	2	004	4		3	002	2
	3	012			4	007	7
	4	002	2		5	120	↓
	5	001	1		6	004	4
	6	120	↓		7	001	1
	7	003	3		8	004	4
	8	005	5		9	003	3
	9	001	1	0240		012	
0200		000	0		1	011	9
	1	012			2	006	6
	2	002	2		3	120	↓
	3	120	↓		4	004	4
	4	003	3		5	002	2

6	002	2
7	006	6
8	011	9
9	120	↓
0250	004	4
1	003	3
2	012	
3	003	3
4	001	1
5	120	↓
6	004	4
7	004	4
8	005	5
9	004	4
0260	012	
1	002	2
2	002	2
3	120	↓
4	004	4
5	005	5
6	003	3
7	003	3
8	003	3
9	120	↓
0270	004	4
1	006	6
2	012	
3	003	3
4	005	5
5	120	↓
6	004	4
7	007	7
8	007	7
9	004	4
0280	012	
1	000	0
2	006	6
3	120	↓
4	004	4
5	010	0
6	001	1
7	000	0
8	000	0
9	000	0
0290	000	0
1	120	↓
2	004	4
3	011	9
4	120	↓
5	005	5
6	003	3
7	002	2
8	000	0
9	000	0
0300	000	0
1	000	0
2	120	↓
3	005	5
4	000	0
5	012	
6	001	1
7	004	4
8	005	5
9	120	↓
0310	005	5
1	001	1
2	012	
3	001	1
4	011	9
5	120	↓
6	005	5
7	002	2
8	012	
9	001	1
0320	006	6
1	005	5
2	120	↓
3	005	5
4	004	4
5	012	
6	002	2
7	000	0

	8	005	5
	9	120	↓
0330		005	5
	1	005	5
	2	001	1
	3	000	0
	4	000	0
	5	000	0
	6	120	↓
	7	005	5
	8	006	6
	9	013	-
0340		120	↓
	1	005	5
	2	011	9
	3	012	
	4	001	1
	5	005	5
	6	120	↓
	7	005	5
	8	007	7
	9	012	
0350		001	1
	1	010	8
	2	120	↓
	3	005	5
	4	010	8
	5	155	
	6	065	
	7	065	
	8	056	
	9	000	0
0360		377	
	1	377	
	2	377	